Assessment and Management of Cardiovascular Risk Factors in the Postmenopausal Woman

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the International Menopause Society
World School for the Study of Menopause

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Faculty Disclosure

Dr. Pines has no financial affiliations to disclose

Note: Additional disclosure information is located within the program

Learning Objectives

At the conclusion of the session, participants will be able to:

◆ Become familiar with cardiovascular risk factors for postmenopausal women
◆ Review screening strategies for assessing cardiovascular risk in postmenopausal women
At Every Age, More Women Die of Heart Disease Than Breast Cancer

Mortality Rates in Women

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Mortality Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-44</td>
<td>1200</td>
</tr>
<tr>
<td>45-49</td>
<td>800</td>
</tr>
<tr>
<td>50-54</td>
<td>400</td>
</tr>
<tr>
<td>55-59</td>
<td>0</td>
</tr>
<tr>
<td>60-64</td>
<td>1200</td>
</tr>
<tr>
<td>65-69</td>
<td>800</td>
</tr>
<tr>
<td>70-74</td>
<td>400</td>
</tr>
<tr>
<td>75-79</td>
<td>0</td>
</tr>
<tr>
<td>80-84</td>
<td>1200</td>
</tr>
<tr>
<td>85+</td>
<td>800</td>
</tr>
</tbody>
</table>


Prognosis of CAD in men vs. women

◆ Women fare less well than men after MI or cardiac interventions. Their short and long term prognosis is worse and the likelihood for adverse events is higher than in men.

Classification of CVD risk in women

<table>
<thead>
<tr>
<th>CV risk factors</th>
<th>increased risk</th>
<th>normal risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal +</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Hx.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.M.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.P.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedentarism</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mosca L, Circulation 2007;115:1481
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**Table 1: NHS 1980-2004**

<table>
<thead>
<tr>
<th>Women</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>104502</td>
<td>12483</td>
</tr>
</tbody>
</table>

**Adjusted HR:**

- **Current vs. Never smokers:**
  - Total mortality: 2.77
  - Lung cancer: 21
  - Smoking-related cancer: 7.29
  - Other cancers: 1.57
  - COPD: 56
  - CAD: 3.34
  - CVA: 2.02

**References:**

- JAMA 2008;299:2037
- Exercise Improves CV Risk Profile
- Exercise and CV Morbidity

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**Exercise Improves CV Risk Profile**

- BMI
- Total, abdominal (S.C. and visceral) fat
- Waist circumference
- Glucose metabolism/Insulin resistance
- Blood pressure
- Lipids
- Endothelial function/Intima-media thickness

**Exercise and CV Morbidity**

- The WHI observational trial data:
  - Up to 45% decreased risk for cardiovascular events, correlated with the degree of energy expenditure (MET)

**References:**

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Body Composition

Android Fat

Gynoid Fat

Risk Score for CVD in females according to levels of Waist Circumference (cm)

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;80</td>
<td></td>
<td>80-88</td>
<td>&gt;88</td>
</tr>
</tbody>
</table>

Holl et al. Maturitas 2002

9/19/2008

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Impact of Cholesterol and TG Levels on Relative Risk of CHD: Framingham Heart Study

Castelli WP. Can J Cardiol. 1988;4:5A-10A.

Blood Pressure Rises after the Menopause

Mean systolic and diastolic blood pressures by age and race/ethnicity for women. US population 18 years of age and older

Hypertension: A risk factor for CVD

2-fold increase in risk for CAD; 3-fold increase in risk for stroke.

Treatment of hypertension is associated with 15-20% decrease in CAD mortality and 30-40% decrease in stroke fatality.
Does Menopause Effect Blood Pressure?

Copyright M. et al. Hypertension 2008;51:952

Based on many studies reaching variable outcomes, it is now believed that a link between menopause per se and hypertension is questionable. The increase in B.P. observed in mid life is mainly related to age.

METABOLIC SYNDROME

A constellation of closely-related metabolic risk factors for CVD in one individual. It mainly includes obesity and central adiposity, hypertension, insulin resistance and dyslipidemia.

Risk factors: fasting glucose > 100 mg/dL; HDL-c < 50 mg/dL; triglycerides > 150 mg/dL; blood pressure > 130/85 mmHg; waist circumference > 80 cm (Europeans); Contributory factors: endothelial dysfunction and vascular inflammation.

International Diabetes Federation definition at: www.idf.org/who/diab/MetSynFinal.pdf
The combination of diabetes and hypertension increases CV mortality 4.5-fold in PMW

Hu G. Diabetologia 2003;46:688

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Hypertension</td>
<td>2.06</td>
<td>2.42</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1.45</td>
<td>1.89</td>
</tr>
<tr>
<td>Hypertension+diabetes</td>
<td>2.42</td>
<td>4.47</td>
</tr>
</tbody>
</table>

Cardiovascular Risk Assessment - Methodology
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SCORE Chart

For high risk populations

Based on
- 12 European cohorts
- 200,000 patients
- 3 million person-years
- 7,000 fatal CV events

High CV risk
- 5% risk of CV death over 10 years

SCORE Chart showing 10-year risk of fatal CVD in women in low-risk populations

Separate charts for high & low risk populations.

4 risk factors:
age, smoking,
SBP and tot. chol.
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Thank you for your attention

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